

AMENDMENTS TO THE CLAIMS

The claims in this listing will replace all prior versions, and listings, of claims in the application.

1. (Currently Amended) A fixing apparatus comprising:

a magnetic flux ~~generation-section~~ generator that generates magnetic flux;

a heat-producing element that is induction-heated by the generated magnetic flux;

a magnetic path forming element that is positioned opposite said heat-producing element and forms a magnetic flux path between said magnetic flux ~~generation-section~~ generator and said heat-producing element;

a magnetism suppressing element that is provided in said magnetic path forming element and ~~by coming is movable~~ is movable to a masking ~~position that masks at least part of a position, that masks at least part of the~~ magnetic flux path corresponding to a paper non-passage area of said heat-producing element element, between said magnetic path forming element and said heat-producing element, ~~suppresses to suppress~~ suppresses magnetic coupling between said magnetic path forming element and said heat-producing element, ~~the magnetic coupling being in a region~~ corresponding to the paper non-passage area; and

a rotation section that ~~by means of rotation~~ causes said magnetism suppressing element to ~~come to rotationally move~~ move to rotationally move to the masking position and ~~a withdrawal position to a withdrawal position~~, withdrawn from the masking position,

wherein said magnetic flux generator comprises an exciting coil that extends in a paper passage width direction of said heat-producing element and is wound so as to loop back at both edges of said heat-producing element, and a core that covers said exciting coil; and

said magnetic path forming element comprises a center core located in the center of the windings of said exciting coil.

2. (Canceled)

3. (Currently Amended) ~~The fixing apparatus according to claim 1, further~~ A fixing apparatus comprising:

a magnetic flux generator that generates magnetic flux;

a heat-producing element that is induction-heated by the generated magnetic flux;

a magnetic path forming element that is positioned opposite said heat-producing element and forms a magnetic flux path between said magnetic flux generator and said heat-producing element;

a magnetism suppressing element that is provided in said magnetic path forming element and is movable to a masking position, that masks at least part of the magnetic flux path corresponding to a paper non-passage area of said heat-producing element, between said magnetic path forming element and said heat-producing element, to suppress magnetic coupling between said magnetic path forming element and said heat-producing element in a region corresponding to the paper non-passage area;

a rotation section that causes said magnetism suppressing element to rotationally move to the masking position and to a withdrawal position, withdrawn from the masking position; and

a rotation section that rotates said magnetic path forming element,

wherein said magnetism suppressing element ~~composed of~~ comprises a cutaway part that ~~widens~~ increases a distance between an opposite surface of said magnetic path forming element facing a paper non-passage area of said heat-producing element and said heat-producing element ~~is formed~~ and is provided in said magnetic path forming element.

4. (Currently Amended) ~~The fixing~~ A fixing apparatus according to claim 1, further comprising:

a magnetic flux generator that generates magnetic flux;

a heat-producing element that is induction-heated by the generated magnetic flux;

a magnetic path forming element that is positioned opposite said heat-producing element and forms a magnetic flux path between said magnetic flux generator and said heat-producing element;

a magnetism suppressing element that is provided in said magnetic path forming element and is movable to a masking position, that masks at least part of the magnetic flux path corresponding to a paper non-passage area of said heat-producing element, between said magnetic path forming element and said heat-producing element, to suppress magnetic coupling between said magnetic path forming element and said heat-producing element in a region corresponding to the paper non-passage area;

a rotation section that causes said magnetism suppressing element to rotationally move to the masking position and to a withdrawal position, withdrawn from the masking position; and

a rotation section that rotates said magnetic path forming element,

wherein said magnetism suppressing element ~~composed of~~ comprises a stepped part that ~~varies~~ has a width that varies in a rotational-direction width of an opposite surface of said magnetic path forming element facing a paper non-passage area of said heat-producing element ~~is formed and is provided~~ in said magnetic path forming element.

5. (Currently Amended) The fixing apparatus according to claim 1, wherein said magnetism suppressing element ~~is composed of~~ comprises a magnetism masking member formed from an electrical conductor that masks magnetic coupling between said magnetic flux

generation-section generator and said heat-producing element corresponding to a paper non-passage area of said heat-producing element.

6. (Currently Amended) The ~~fixing apparatus according to claim 2~~, A fixing apparatus comprising:

a magnetic flux generator that generates magnetic flux;

a heat-producing element that is induction-heated by the generated magnetic flux;

a magnetic path forming element that is positioned opposite said heat-producing element and forms a magnetic flux path between said magnetic flux generator and said heat-producing element;

a magnetism suppressing element that is provided in said magnetic path forming element and is movable to a masking position, that masks at least part of the magnetic flux path corresponding to a paper non-passage area of said heat-producing element, between said magnetic path forming element and said heat-producing element, to suppress magnetic coupling between said magnetic path forming element and said heat-producing element; in a region corresponding to the paper non-passage area; and

a rotation section that causes said magnetism suppressing element to rotationally move to the masking position and to a withdrawal position, withdrawn from the masking position,

said magnetic flux generator comprising an exciting coil that extends in a paper passage width direction of said heat-producing element and is wound so as to loop back at both edges of said heat-producing element, and a core that covers said exciting coil; and

said magnetic path forming element comprises a center core located in the center of the windings of said exciting coil,

wherein said core ~~covering~~ that covers said exciting coil has a bypass path section forming that forms a magnetic flux path so as to circumvent said center core on a side facing said heat-producing element with said center core therebetween.

7. (Currently Amended) ~~The fixing apparatus according to claim 1,~~ A fixing apparatus comprising:

a magnetic flux generator that generates magnetic flux;

a heat-producing element that is induction-heated by the generated magnetic flux;

a magnetic path forming element that is positioned opposite said heat-producing element and forms a magnetic flux path between said magnetic flux generator and said heat-producing element;

a magnetism suppressing element that is provided in said magnetic path forming element and is movable to a masking position, that masks at least part of the magnetic flux path corresponding to a paper non-passage area of said heat-producing element, between said magnetic path forming element and said heat-producing element, to suppress magnetic coupling between said magnetic path forming element and said heat-producing element; in a region corresponding to the paper non-passage area; and

a rotation section that causes said magnetism suppressing element to rotationally move to the masking position and to a withdrawal position, withdrawn from the masking position,

wherein said magnetism suppressing element is provided on an endless belt suspended rotatably suspended on said magnetic path forming element.

8. (Currently Amended) ~~The fixing apparatus according to claim 1,~~ wherein A fixing apparatus comprising:

a magnetic flux generator that generates magnetic flux;

a heat-producing element that is induction-heated by the generated magnetic flux;  
a magnetic path forming element that is positioned opposite said heat-producing element  
and forms a magnetic flux path between said magnetic flux generator and said heat-producing  
element;

a magnetism suppressing element that is provided in said magnetic path forming element  
and is movable to a masking position, that masks at least part of the magnetic flux path  
corresponding to a paper non-passage area of said heat-producing element, between said  
magnetic path forming element and said heat-producing element, to suppress magnetic coupling  
between said magnetic path forming element and said heat-producing element; in a region  
corresponding to the paper non-passage area; and

a rotation section that causes said magnetism suppressing element to rotationally move to  
the masking position and to a withdrawal position, withdrawn from the masking position,

said magnetic flux ~~generation section~~ ~~has~~ generator comprises an exciting coil that  
extends in a paper passage width direction of said heat-producing element and is wound so as to  
loop back at both edges of said heat-producing element, and a core that covers said exciting coil;  
and

said magnetic path forming element on which said magnetism suppressing element is  
provided ~~is composed~~ comprises of a side core that is ~~provided~~ located on a side part of said  
exciting coil and transects a magnetic path of said core.

9. (Currently Amended) ~~The fixing apparatus according to claim 1, A fixing apparatus~~  
comprising:

a magnetic flux generator that generates magnetic flux;

a heat-producing element that is induction-heated by the generated magnetic flux;

a magnetic path forming element that is positioned opposite said heat-producing element and forms a magnetic flux path between said magnetic flux generator and said heat-producing element;

a magnetism suppressing element that is provided in said magnetic path forming element and is movable to a masking position, that masks at least part of the magnetic flux path corresponding to a paper non-passage area of said heat-producing element, between said magnetic path forming element and said heat-producing element, to suppress magnetic coupling between said magnetic path forming element and said heat-producing element; in a region corresponding to the paper non-passage area; and

a rotation section that causes said magnetism suppressing element to rotationally move to the masking position and to a withdrawal position, withdrawn from the masking position,

wherein said magnetic flux ~~generation section is provided outside~~ generator is provided externally of said heat-producing element.

10. (Currently Amended) ~~The fixing apparatus according to claim 1,~~ A fixing apparatus comprising:

a magnetic flux generator that generates magnetic flux;

a heat-producing element that is induction-heated by the generated magnetic flux;

a magnetic path forming element that is positioned opposite said heat-producing element and forms a magnetic flux path between said magnetic flux generator and said heat-producing element;

a magnetism suppressing element that is provided in said magnetic path forming element and is movable to a masking position, that masks at least part of the magnetic flux path corresponding to a paper non-passage area of said heat-producing element, between said

magnetic path forming element and said heat-producing element, to suppress magnetic coupling between said magnetic path forming element and said heat-producing element, in a region corresponding to the paper non-passage area; and

a rotation section that causes said magnetism suppressing element to rotationally move to the masking position and to a withdrawal position, withdrawn from the masking position,

wherein said magnetic flux generation-section generator comprises:

an exciting coil that extends in a paper passage width direction of said heat-producing element and is wound so as to loop back at both edges of said heat-producing element;

a core that covers said exciting coil; and

a leakage magnetism masking member that is provided between said exciting coil and said core, and masks leakage flux that reaches said heat-producing element from said core via said exciting coil.

11. (Currently Amended) ~~The fixing apparatus according to claim 10;~~ A fixing apparatus comprising:

a magnetic flux generator that generates magnetic flux;

a heat-producing element that is induction-heated by the generated magnetic flux;

a magnetic path forming element that is positioned opposite said heat-producing element and forms a magnetic flux path between said magnetic flux generator and said heat-producing element;

a magnetism suppressing element that is provided in said magnetic path forming element and is movable to a masking position, that masks at least part of the magnetic flux path corresponding to a paper non-passage area of said heat-producing element, between said magnetic path forming element and said heat-producing element, to suppress magnetic coupling



between said magnetic path forming element and said heat-producing element; in a region corresponding to the paper non-passage area;

a rotation section that causes said magnetism suppressing element to rotationally move to the masking position and to a withdrawal position, withdrawn from the masking position,  
an exciting coil that extends in a paper passage width direction of said heat-producing element and is wound so as to loop back at both edges of said heat-producing element;

a core that covers said exciting coil; and

a leakage magnetism masking member that is provided between said exciting coil and said core, and masks leakage flux that reaches said heat-producing element from said core via said exciting coil.

wherein a ~~rotational-direction-width~~ width, in the rotational-direction, of said heat-producing element of said leakage magnetism masking member is narrower than a ~~rotational-direction-width~~ width, in the rotational direction, of said heat-producing element of the exciting coil.

12. (Currently Amended) The fixing apparatus according to claim 1, wherein said heat-producing element ~~is made of~~ comprises magnetic material.

13. (Original) An image forming apparatus comprising the fixing apparatus according to claim 1.

14. (New) The fixing apparatus according to claim 1, wherein said core that covers said exciting coil has a bypass path section that forms a magnetic flux path so as to circumvent said center core on a side facing said heat-producing element with said center core therebetween.

15. (New) The fixing apparatus according to claim 3, wherein said core that covers said exciting coil has a bypass path section that forms a magnetic flux path so as to circumvent said center core on a side facing said heat-producing element with said center core therebetween.

16. (New) The fixing apparatus according to claim 4, wherein said core that covers said exciting coil has a bypass path section that forms a magnetic flux path so as to circumvent said center core on a side facing said heat-producing element with said center core therebetween.

17. (New) The fixing apparatus according to claim 3, an image forming apparatus comprising the fixing apparatus.

18. (New) The fixing apparatus according to claim 4, an image forming apparatus comprising the fixing apparatus.

19. (New) The fixing apparatus according to claim 6, an image forming apparatus comprising the fixing apparatus.

20. (New) The fixing apparatus according to claim 1, said magnetism suppressing element being movable to define to at least two masking positions that mask paper non-passage areas of different widths.

21. (New) The fixing apparatus according to claim 3, said magnetism suppressing element being movable to define to at least two masking positions that mask paper non-passage areas of different widths.